

Notice of Allowability

Application No.

10/531,732

Examiner

Amy Hsu

Applicant(s)

ASADA ET AL.

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/18/2005.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 7/9/2007, 4/18/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



LIN YE
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-15 allowed.
2. The following is an examiner's statement of reasons for allowance: The prior art cited teaches the well known concept of converting a 24 frame/second imaging signal into a 60 field/second interlaced signal using 2:3 pull down processing. The prior art also teaches the well known details of 2:3 pull down processing including outputting the 24 frame/second signal over a 1/30 second frame every 1/24 second in synchronization with a vertical synchronizing signal of the 24 frame/second imaging signal. It is also well known a well known concept in the art to correspond two frames of the 24 frame/second imaging signal to a converted five fields of a 60 field/second interlaced signal. A recording and display section in an associated imaging apparatus using 2:3 pull down processing is also standard. However, the prior art fails to teach a delay section for outputting a 24p imaging signal of one frame at the same timing as a phase of a vertical synchronizing signal of the 60 field/second interlaced signal and outputting the 24 frame/sec signal after delaying said the signal by a time *during which the 60 field/sec interlaced signal is subjected to a (1/2) field scanning* when the 24 field/sec signal is outputted at a different timing. The prior art also teaches various methods of handling the fifth field of the converted five fields of a 60 field/sec interlaced signal that correspond to two fields of the original signal. However the prior art fails to teach the above in combination with a display section for conversion in which the fifth field is

removed, generating a display signal having a black level signal to have equal frame intervals. The prior art teaches the concept or method of restricting the band in the vertical direction to ensure reduction of disturbance such as line flicker for image quality improvement. However fails to teach the above in combination with a memory section which performs this function.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chow (US 2003/0189667) teaches a 3:2 pull down detection technique for converting an interlaced video signal into a progressive video signal.

Kim et al. (US 6788347) teaches a video decoder.

Sita et al. (US 6539120) teaches a video decoder to produce a high definition video output signal.

Demos (US 6728317) teaches a method and apparatus for image compression using enhanced 3-2 pulldown system.

Carlsgaard et al. (US 2004/0004672) teaches a combined de-interlacing and frame doubling system.

Jiang (US 2002/0130970) teaches a method and apparatus for processing video

data in which a decoder receives video data and decodes the video data into fields.

Furuhata et al. (US 5907364) teaches a display device for information signals which performs highly efficient image display of a standard television signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy Hsu whose telephone number is 571-270-3012. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Amy Hsu
Examiner
Art Unit 2622

ARH 12/20/07

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